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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,819	03/30/2001	Akio Tanaka	P 280082 U3-0109-RH	4490

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EXAMINER

TUNG, TA HSUNG

ART UNIT

PAPER NUMBER

1753

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,819

Applicant(s)

TANAKA

BTN

Examiner

T. TUNG

Group Art Unit

1753

Paper No. 10

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 3/20/03
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-13 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 12 is/are allowed.
- ☒ Claim(s) 1-11, 13 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
 - ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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Claims 1-11, 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 3-4, the language "each pair of electrodes is disposed respectively on surfaces of one of the plurality of solid electrolyte plates" appears to call for the two electrodes of a pair to be on opposite surfaces (note that "surfaces" is plural). If so, this language would contradict wording at lines 10-11 of the claim, which calls for "a single pair of electrodes of the third electrochemical cell is disposed on the same surface of one of the plurality of solid electrolyte plates".

Claim 3, line 7, "correspondingly" apparently should be --corresponding--.

Claims 4 and 6, last two lines, "exposed to either one of the first or second chambers, respectively" is questioned. First, the "or" appears to be improper and should be --and-- because of the language "either one of the" preceding it. Second, "respectively" does not appear to be proper here and should be cancelled. Third, it is not evident what basis exists in the original disclosure for locating the other electrode 31 of the second cell and the other electrode 61 of the fourth cell in the first gas chamber 11. From the drawings, both of these other electrodes 31, 61 are located in the second gas chambers 12.

Claim 10, last line "to" (1st occ) apparently should be --so--.

Claims 4-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

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in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 4 and 6, last two lines, it is not evident what basis exists in the original disclosure for the other electrode 31 of the second cell and the other electrode 61 of the fourth cell to be located in the first gas chamber 11. It appears that both of these other electrodes 31, 61 are located in the second gas chamber 12.

Claims 1, 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hasei et al 6,319,377.

Hasei discloses a first cell 3a-3b(or 9a-9b or 8a-8b) for pre-processing a gas, a second cell 4a-5 for measuring a component (NOX) of the gas and a third cell 7-5 for detecting the electromotive force between the gas and a reference gas. See figure 1; col. 4, line 29 to col. 5, line 18.

Electrodes of the first cell are on opposite sides of a solid electrolyte 1. Electrodes of the second cell is shown in figure 1 to be on the same side of a solid electrolyte 2. However, at col. 5, lines 8-10, the patent states that electrodes 4a-5 may be formed on solid electrolyte 1. In that case, the electrodes would be on opposite sides of the electrolyte, since electrode 5 should be in the ambient duct 19a to avoid exerting an influence on the NOX measurement (see col. 5, lines 2-7). Electrodes of the third cell are shown to be arranged on the same surface of electrolyte 2. Therefore, in the instance wherein the patent's second cell is arranged on electrolyte 1, applicant's claims are seen to be met.

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As for claim 13, second cell 4a-5 is seen to be located closer to a heater 6 than the first cell 3a-3b is located to the heater.

Claims 1, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasei et al '377.

If Hasei were construed as not to show a sensing device with a second cell having electrodes on opposing surfaces of a solid electrolyte, applicant's claims differ in that respect.

From the discussion at col. 5, lines 2-10, Hasei is considered to clearly suggest that the sensor shown in figure 1 may be modified by locating the second cell (the cell that measures the NOX component sought to be measured) on electrolyte 1. In that case, the electrodes of the second cell would be on opposite surfaces of the electrolyte.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasei et al '377 in view of Mase et al 4,755,274.

Hasei discloses a plate 16 between the two electrolytes 1 and 2. However, Hasei does not appear to disclose the material of this plate. Claim 10 differs by calling for an alumina insulating plate between the electrolytes.

Mase discloses an alumina insulating plate 10 between electrolytes 12 and 22. See col. 6, lines 32-34. It would have been obvious for Hasei to use an insulating material such as alumina for plate 16 in view of Mase so as to prevent current leakage between the various cells of the sensor, as discussed in the paragraph connecting columns 5 and 6 of Mase.

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 13 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of copending Application No. 09/821,807 in view of Hasei et al 6,319,377.

This is a provisional obviousness-type double patenting rejection.

Copending application '807 claims the feature of locating a second cell closer to a heater than a first cell to the heater. It would have been obvious to locate the heater in this manner in the Hasei sensing device for the advantages set forth in the '807 application.

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A copy of the form PTO-892 cited in the previous Office action as well as copies of the references cited therein are enclosed. A copy of the IDS of March 30, 2001 is also enclosed.

Query is made of the proposed drawing correction submitted on March 20, 2003. The diffusion member 120 was originally shown in cross sectional hatching. It is unclear what the member 120 will now be shown as.

The examiner can be reached at 703-308-3329. His supervisor Nam Nguyen can be reached at 703-308-3322.



Ta Tung

Primary Examiner

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